

<110> Mitchell, William M.
Stratton, Charles W.

<130> VDB98-01

<140> 09/025,596

<141> 1998-02-18

<150> 08/911,593

<151> 1997-08-14

<150> 60/023,921

<151> 1996-08-14

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 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Gln Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Ala Thr Gly Asn Ala Ala
 85 90 95
 Ala Pro Ser Thr
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 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Thr Thr Gly Asn Ala Ala
 85 90 95
 Ala Pro Ser Thr
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 20 25 30
 Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
 35 40 45
 Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
 50 55 60
 Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Glu Thr Asp Val Asn Lys
 65 70 75 80
 Glu Phe His Met Gly Ala Lys Pro Thr Thr Asp Thr Gly Asn Ser Ala
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 Ala Pro Leu Thr
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TOTAL 692220T

10/31

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20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
65 70 75 80
Glu Phe His Met Gly Asp Lys Pro Thr Ser Thr Thr Gly Asn Ala Thr
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Ala Pro Thr Thr
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<210> 49
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<400> 49

Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
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Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
65 70 75 80
Glu Phe His Met Gly Asp Lys Pro Thr Ala Thr Thr Gly Asn Ala Ala
85 90 95
Ala Pro Ser Thr
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Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
1 5 10 15
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45

11/31

Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
65 70 75 80
Glu Phe Lys Met Gly Glu Ala Leu Ala Gly Ser Thr Gly Asn Thr Thr
85 90 95
Ser Thr Leu Ser Lys
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<210> 51
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<213> Chlamydia trachomatis

<400> 51
Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
1 5 10 15
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Val Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
65 70 75 80
Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Ser Asp Val Ala Ala Gly
85 90 95
Leu Gln Asn Asp Pro Thr Ile
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<213> Chlamydia trachomatis

<400> 52
Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
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Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
65 70 75 80
Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Arg Asp Val Ala Gly Leu
85 90 95
Glu Lys Asp Pro Val Val
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<210> 53
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<213> Chlamydia trachomatis

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<400> 53

Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Leu	Val	Phe	Ala	Ala	Leu	Ser	Ser
1				5					10					15	
Ala	Ser	Ser	Leu	Gln	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
			20					25					30		
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
		35					40					45			
Ala	Pro	Cys	Thr	Thr	Trp	Cys	Asp	Ala	Ile	Ser	Met	Val	Met	Gly	Tyr
	50					55					60				
Tyr	Gly	Asp	Phe	Val	Phe	Asp	Arg	Val	Leu	Lys	Thr	Asp	Val	Asn	Lys
65					70					75				80	
Glu	Phe	Gln	Met	Gly	Ala	Ala	Pro	Thr	Thr	Asn	Asp	Ala	Ala	Pro	Lys
				85					90					95	

Thr

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<211> 102

<212> PRT

<213> Chlamydia trachomatis

<400> 54

Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Leu	Val	Phe	Ala	Ala	Leu	Ser	Ser
1				5					10					15	
Ala	Ser	Ser	Leu	Gln	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
			20					25					30		
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
		35					40					45			
Asp	Pro	Cys	Thr	Thr	Trp	Cys	Asp	Ala	Ile	Ser	Met	Val	Met	Gly	Tyr
	50					55					60				
Tyr	Gly	Asp	Phe	Val	Phe	Asp	Arg	Val	Leu	Lys	Thr	Asp	Val	Asn	Lys
65					70					75				80	
Glu	Phe	Gln	Met	Gly	Ala	Glu	Pro	Thr	Thr	Ser	Asp	Thr	Ala	Gly	Leu
				85					90					95	

Ser Asn Asp Pro Thr Thr
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<213> Chlamydia trachomatis

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Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Ala	Val	Phe	Val	Ala	Gly	Ser	Ser
1				5					10					15	
Ala	Ser	Ser	Leu	His	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
			20					25					30		
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
		35					40					45			
Asp	Pro	Cys	Thr	Thr	Trp	Cys	Asp	Ala	Ile	Ser	Met	Arg	Met	Gly	Leu
	50					55					60				
Tyr	Leu	Asp	Phe	Val	Phe	Asp	Arg	Val	Leu	Lys	Thr	Asp	Val	Asn	Lys
65					70					75				80	
Gln	Phe	Glu	Met	Gly	Ala	Ala	Pro	Thr	Gly	Asp	Ala	Asp	Leu	Thr	Thr
				85					90					95	

10020269-12441

Ala Pro Thr Pro
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<213> Chlamydia pneumoniae

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Met Lys Lys Leu Leu Lys Ala Val Leu Ala Phe Ala Phe Ala Gly Ser
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Val Gly Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Ser Asp Ser
20 25 30
Leu Leu Ile Asp Gly Thr Ile Trp Glu Gly Ala Ala Gly Asp Pro Cys
35 40 45
Asp Pro Ala Thr Thr Trp Cys Asp Ala Ile Ser Leu Arg Ala Gly Phe
50 55 60
Tyr Gly Asp Phe Val Tyr Asp Ile Val Leu Lys Val Asp Ala Pro Lys
65 70 75 80
Thr Phe Ser Met Gly Ala Lys Pro Thr Thr Thr Gly Asn Gly Ser Ala
85 90 95
Ala Ala Asn

<210> 57

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<212> PRT

<213> Chlamydia trachomatis

<400> 57

Cys Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala
1 5 10 15
Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
20 25 30
Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly
35 40 45
Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn
50 55 60
His Ala Thr Val Ser Asp Ser Lys Leu Val Pro Asn Met Ser Leu Asp
65 70 75 80
Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Ala
85 90 95
Gly Ala Arg Ala
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<210> 58

<211> 65

<212> PRT

<213> Chlamydia trachomatis

<400> 58

Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala
1 5 10 15
Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
20 25 30

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<212> PRT

<213> Chlamydia trachomatis

<400> 61

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1				5					10					15	
Glu	Met	Phe	Thr	Asn	Ala	Ala	Tyr	Met	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20					25					30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Ser	Gly	Tyr	Leu	Lys	Gly
		35					40					45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Asp	Asn	Glu	Asn
		50				55					60				
Gln	Ser	Thr	Val	Lys	Lys	Asp	Ala	Val	Pro	Asn	Met	Ser	Phe	Asp	Gln
65					70					75					80
Ser	Val	Val	Glu	Leu	Tyr	Thr	Asp	Thr	Thr	Phe	Ala	Trp	Ser	Val	Gly
				85					90						95

Ala Arg Ala

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<212> PRT

<213> Chlamydia trachomatis

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Leu	Val	Glu	Arg	Thr	Asn	Pro	Ala	Tyr	Gly	Lys	His	Met	Gln	Asp	Ala
1				5					10					15	
Glu	Met	Phe	Thr	Asn	Cys	Ala	Tyr	Thr	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20					25					30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Ser	Gly	Tyr	Leu	Lys	Gly
		35					40					45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Asp	Gly	Val	Asn
		50				55					60				
Ala	Thr	Lys	Pro	Ala	Ala	Asp	Ser	Ile	Pro	Asn	Val	Gln	Leu	Asn	Gln
65					70					75					80
Ser	Val	Val	Glu	Leu	Tyr	Thr	Asp	Thr	Thr	Phe	Ala	Trp	Ser	Val	Gly
				85					90						95

Ala Arg Ala

<210> 63

<211> 100

<212> PRT

<213> Chlamydia trachomatis

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Asn	Val	Ala	Arg	Pro	Asn	Pro	Ala	Tyr	Gly	Lys	His	Met	Gln	Asp	Ala
1				5					10					15	
Glu	Met	Phe	Thr	Asn	Ala	Ala	Tyr	Met	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20					25					30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Thr	Gly	Tyr	Leu	Lys	Gly
		35					40					45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Thr	Lys	Thr	Gln
		50				55					60				

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<213> Chlamydia trachomatis
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<213> Chlamydia trachomatis
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<210> 66
<211> 100
<212> PRT
<213> Chlamydia trachomatis
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<400> 66

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Asn	Val	Ala	Arg	Pro	Asn	Pro	Ala	Tyr	Gly	Lys	His	Met	Gln	Asp	Ala
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Glu	Met	Phe	Thr	Asn	Ala	Ala	Tyr	Met	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20					25					30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Thr	Gly	Tyr	Leu	Lys	Gly
		35					40					45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Thr	Lys	Thr	Gln
	50					55					60				
Ser	Thr	Asn	Phe	Asn	Thr	Ala	Lys	Leu	Val	Pro	Asn	Thr	Ala	Leu	Asn
65					70					75					80
Gln	Ala	Val	Val	Glu	Leu	Tyr	Thr	Asp	Thr	Thr	Phe	Ala	Trp	Ser	Val
				85					90					95	
Gly	Ala	Arg	Ala												
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<210> 67

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<213> Chlamydia trachomatis

<400> 67

Ala	Ser	Arg	Glu	Asn	Pro	Ala	Tyr	Gly	Lys	His	Met	Gln	Asp	Ala	Glu
1				5					10					15	
Met	Phe	Thr	Asn	Ala	Ala	Tyr	Met	Ala	Leu	Ile	Asn	Trp	Asp	Arg	Phe
			20					25					30		
Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Ser	Gly	Tyr	Leu	Lys	Gly	Asn
		35					40					45			
Ser	Ala	Ala	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Arg	Asp	Glu	Thr	Ala
	50					55				60					
Val	Ala	Ala	Asp	Asp	Ile	Pro	Asn	Val	Ser	Leu	Ser	Gln	Ala	Val	Val
65					70					75					80
Glu	Leu	Tyr	Thr	Asp	Thr	Ala	Phe	Ala	Trp	Ser	Val	Gly	Ala	Arg	Ala
				85					90					95	

<210> 68

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<212> PRT

<213> Chlamydia pneumoniae

<400> 68

Tyr	Thr	Thr	Ala	Val	Asp	Arg	Pro	Asn	Pro	Ala	Tyr	Asn	Lys	His	Leu
1				5					10					15	
His	Asp	Ala	Glu	Trp	Phe	Thr	Asn	Ala	Gly	Ile	Phe	Ala	Leu	Ile	Asn
			20					25					30		
Trp	Asp	Arg	Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Ser	Asn	Gly	Ile
		35					40					45			
Arg	Lys	Gly	Asn	Ser	Thr	Ala	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Val
	50					55					60				
Lys	Gly	Thr	Thr	Val	Asn	Ala	Asn	Glu	Leu	Pro	Asn	Val	Ser	Leu	Ser
65					70					75					80
Asn	Gly	Val	Val	Glu	Leu	Tyr	Thr	Asp	Thr	Ser	Phe	Ser	Trp	Ser	Val
				85					90					95	
Gly	Ala	Arg	Ala												
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<400> 69

<210> 70

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 70

<210> 71

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 71

Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr	Leu	Gly	Ala	Ser	Phe	Gln	Tyr
1				5					10					15	
Ala	Gln	Ser	Lys	Pro	Lys	Val	Glu	Glu	Leu	Asn	Val	Leu	Cys	Asn	Ala
			20					25					30		
Ala	Glu	Phe	Thr	Ile	Asn	Lys	Pro	Lys	Gly	Tyr	Val	Gly	Lys	Glu	Phe
		35					40					45			

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<210> 72
<211> 100
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<213> Chlamydia trachomatis
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<210> 73
<211> 100
<212> PRT
<213> Chlamydia trachomatis
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<210> 74
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<213> Chlamydia trachomatis
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<400> 74

Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr	Leu	Gly	Ala	Ser	Phe	Gln	Tyr
1				5					10					15	
Ala	Gln	Ser	Lys	Pro	Lys	Ile	Glu	Glu	Leu	Asn	Val	Leu	Cys	Asn	Ala
			20					25					30		
Ala	Glu	Phe	Thr	Ile	Asn	Lys	Pro	Lys	Gly	Tyr	Val	Gly	Lys	Glu	Phe
		35						40					45		
Pro	Leu	Asp	Leu	Thr	Ala	Gly	Thr	Asp	Ala	Ala	Thr	Gly	Thr	Lys	Asp
		50				55					60				
Ala	Ser	Ile	Asp	Tyr	His	Glu	Trp	Gln	Ala	Ser	Leu	Ser	Leu	Ser	Tyr
65					70					75					80
Arg	Leu	Asn	Met	Phe	Thr	Pro	Tyr	Ile	Gly	Val	Lys	Trp	Ser	Arg	Ala
				85					90					95	
Ser	Phe	Asp	Ser												
			100												

<210> 75

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 75

Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr	Leu	Gly	Ala	Ser	Phe	Gln	Tyr
1				5					10					15	
Ala	Gln	Ser	Lys	Pro	Lys	Val	Glu	Glu	Leu	Asn	Val	Leu	Cys	Asn	Ala
			20					25					30		
Ser	Glu	Phe	Thr	Ile	Asn	Lys	Pro	Lys	Gly	Tyr	Val	Gly	Ala	Glu	Phe
		35						40					45		
Pro	Leu	Asn	Ile	Thr	Ala	Gly	Thr	Glu	Ala	Ala	Thr	Gly	Thr	Lys	Asp
		50				55					60				
Ala	Ser	Ile	Asp	Tyr	His	Glu	Trp	Gln	Ala	Ser	Leu	Ala	Leu	Ser	Tyr
65					70					75					80
Arg	Leu	Asn	Met	Phe	Thr	Pro	Tyr	Ile	Gly	Val	Lys	Trp	Ser	Arg	Val
				85					90					95	
Ser	Phe	Asp	Ala												
			100												

<210> 76

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 76

Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr	Leu	Gly	Ala	Ser	Phe	Gln	Tyr
1				5					10					15	
Ala	Gln	Ser	Lys	Pro	Lys	Val	Glu	Glu	Leu	Asn	Val	Leu	Cys	Asn	Ala
			20					25					30		
Ser	Glu	Phe	Thr	Ile	Asn	Lys	Pro	Lys	Gly	Tyr	Val	Gly	Ala	Glu	Phe
		35						40					45		
Pro	Leu	Asp	Ile	Thr	Ala	Gly	Thr	Glu	Ala	Ala	Thr	Gly	Thr	Lys	Asp
		50				55					60				
Ala	Ser	Ile	Asp	Tyr	His	Glu	Trp	Gln	Ala	Ser	Leu	Ala	Leu	Ser	Tyr
65					70					75					80
Arg	Leu	Asn	Met	Phe	Thr	Pro	Tyr	Ile	Gly	Val	Lys	Trp	Ser	Arg	Val
				85					90					95	

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Ser Phe Asp Ala
100

<210> 77
<211> 100
<212> PRT
<213> Chlamydia trachomatis

<400> 77

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
1 5 10 15
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
20 25 30
Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe
35 40 45
Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp
50 55 60
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
65 70 75 80
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val
85 90 95
Ser Phe Asp Ala
100

<210> 78
<211> 100
<212> PRT
<213> Chlamydia trachomatis

<400> 78

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
1 5 10 15
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asp Ala
20 25 30
Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe
35 40 45
Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp
50 55 60
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
65 70 75 80
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val
85 90 95
Ser Phe Asp Ala
100

<210> 79
<211> 100
<212> PRT
<213> Chlamydia trachomatis

<400> 79

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
1 5 10 15
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
20 25 30

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Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Gln Glu Phe
 35 40 45
 Pro Leu Asn Ile Lys Ala Gly Thr Val Ser Ala Thr Asp Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala
 85 90 95
 Ser Phe Asp Ala
 100

<210> 80
 <211> 100
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 80

Gly Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Glu Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Ile Cys Asn Val
 20 25 30
 Ser Gln Phe Ser Val Asn Lys Pro Lys Gly Tyr Lys Gly Val Ala Phe
 35 40 45
 Pro Leu Pro Thr Asp Ala Gly Val Ala Thr Ala Thr Gly Thr Lys Ser
 50 55 60
 Ala Thr Ile Asn Tyr His Glu Trp Gln Val Gly Ala Ser Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Ser Leu Val Pro Tyr Ile Gly Val Gln Trp Ser Arg Ala
 85 90 95
 Thr Phe Asp Ala
 100

<210> 81
 <211> 94
 <212> PRT
 <213> Chlamydia trachomatis

<400> 81

Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Thr Thr Val Phe Asp
 1 5 10 15
 Val Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Ala
 20 25 30
 Ser Ala Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln
 35 40 45
 Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr
 50 55 60
 Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu
 65 70 75 80
 Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe
 85 90

<210> 82
 <211> 92
 <212> PRT
 <213> Chlamydia trachomatis

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<400> 82

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Ser	Ala	Glu	Thr	Ile	Phe	Asp
1				5					10					15	
Val	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Gly	Asp	Val	Lys	Thr
			20					25					30		
Ser	Ala	Glu	Gly	Gln	Leu	Gly	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu	Gln
		35					40					45			
Leu	Asn	Met	Lys	Ser	Arg	Lys	Cys	Gly	Ile	Ala	Val	Gly	Thr	Thr	Ile
	50					55					60				
Val	Asp	Ala	Asp	Lys	Tyr	Ala	Ile	Thr	Val	Glu	Thr	Arg	Leu	Ile	Asp
65					70					75					80
Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe				
				85					90						

<210> 83

<211> 94

<212> PRT

<213> Chlamydia trachomatis

<400> 83

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Ser	Ala	Thr	Ala	Ile	Phe	Asp
1				5					10					15	
Thr	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Gly	Asp	Val	Lys	Thr
			20					25					30		
Gly	Thr	Glu	Gly	Gln	Leu	Gly	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu	Gln
		35					40					45			
Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly	Thr
	50					55				60					
Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg	Leu
65					70					75					80
Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe		
				85					90						

<210> 84

<211> 94

<212> PRT

<213> Chlamydia trachomatis

<400> 84

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Ser	Ala	Thr	Ala	Ile	Phe	Asp
1				5					10					15	
Thr	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Gly	Asp	Val	Lys	Ala
			20					25					30		
Ser	Ala	Glu	Gly	Gln	Leu	Gly	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu	Gln
		35					40					45			
Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly	Thr
	50					55				60					
Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg	Leu
65					70					75					80
Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe		
				85					90						

<210> 85

<211> 94

<212> PRT

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<400> 85

<210> 86

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 86

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Arg	Leu	Val	Thr	Pro	Val	Val	Asp
1				5					10					15	
Ile	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Cys	Asp	Ser	Lys	Ala
			20					25					30		
Gly	Asn	Thr	Glu	Gly	Gln	Ile	Ser	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
		35				40						45			
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
		50				55					60				
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg
65					70					75					80
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	
				85					90					95	

<210> 87

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 87

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Glu	Ala	Ile	Leu	Asp
1				5					10					15	
Val	Thr	Thr	Leu	Asn	Arg	Thr	Thr	Ala	Gly	Lys	Gly	Ser	Val	Val	Ser
			20					25					30		
Ala	Gly	Thr	Asp	Asn	Glu	Leu	Ala	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
		35					40					45			
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
	50				55					60					
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Ala	Arg
65				70					75						80
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	
			85						90					95	

<210> 88

<400> 88

<210> 89

<211> 94

<212> PRT

<213> Chlamydia trachomatis

<400> 89

<210> 90

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 90

Asp 1	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Glu	Ala	Val	Leu	Asp
Val	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Lys	Gly	Ser	Val	Val	Ala
Ser	Gly	Ser	Glu	Asn	Glu	Leu	Ala	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	

<400> 91

<210> 92

<211> 93

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<400> 92

<210> 93

<211> 17

<212> PRT

<400> 93

<210> 94

<211> 18

<212> PRT

<213> Chlamydia trachomatis

<400> 94

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<210> 95
<211> 19
<212> PRT
<213> Chlamydia trachomatis
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<210> 96
<211> 17
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<213> Chlamydia psitacii
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<210> 97
<211> 15
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<210> 98
<211> 15
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<210> 99
<211> 18
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<400> 99
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Val Pro

<400> 100
 Cys Ile Gly Leu Ala Gly Thr Asp Phe Ala Asn Gln Arg Pro
 1 5 10

<400> 101
 Cys Gln Ile Asn Lys Phe Lys Ser Arg Lys Ala Cys Gly
 1 5 10

<400> 102
 Cys Gln Ile Asn Lys Met Lys Ser Arg Phe Ala Cys Gly
 1 5 10

<400> 103
Cys Gln Leu Asn Lys Met Lys Ser Arg Lys Ala Cys Gly
1 5 10

<400> 104
Cys Gln Ile Asn Lys Phe Lys Ser Arg Phe Ala Cys Gly
1 5 10

<400> 105
Arg Lys Lys Glu Arg Ser
1 5

<210> 106

<211> 10
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 <213> Chlamydia pneumoniae

<400> 106
 Ser Thr Glu Cys Asn Ser Gln Ser Pro Gln
 1 5 10

<210> 107
 <211> 13
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 <213> Ebola virus

<400> 107
 Asn Pro Asn Leu His Tyr Trp Thr Thr Gln Asp Glu Gly
 1 5 10

<210> 108
 <211> 22
 <212> PRT
 <213> Ebola virus

<400> 108
 Ser Gly Gln Ser Pro Ala Arg Thr Ser Ser Asp Pro Gly Thr Asn Thr
 1 5 10 15
 Thr Thr Glu Asp His Lys
 20

<210> 109
 <211> 9
 <212> PRT
 <213> Ebola virus

<400> 109
 Thr Gly Gly Arg Arg Thr Arg Arg Glu
 1 5

<210> 110
 <211> 10
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 <213> Ebola virus

<400> 110
 Arg Asp Arg Phe Lys Arg Thr Ser Phe Phe
 1 5 10

<210> 111
 <211> 12
 <212> PRT
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<400> 111
 Glu Gln His His Arg Arg Thr Asp Asn Asp Ser Thr
 1 5 10

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<400> 112

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<210> 113
<211> 12
<212> PRT
<213> Ebola virus
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<400> 113

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<213> Ebola virus
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<400> 115

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<213> Ebola virus
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<400> 116

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<213> Ebola virus
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<400> 117

<210> 118

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<211> 15
<212> PRT
<213> Ebola virus
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<400> 118

Thr His His Gln Asp Thr Gly Glu Glu Ser Ala Ser Ser Gly Lys
1 5 10 15

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